

Unit 1: Organization

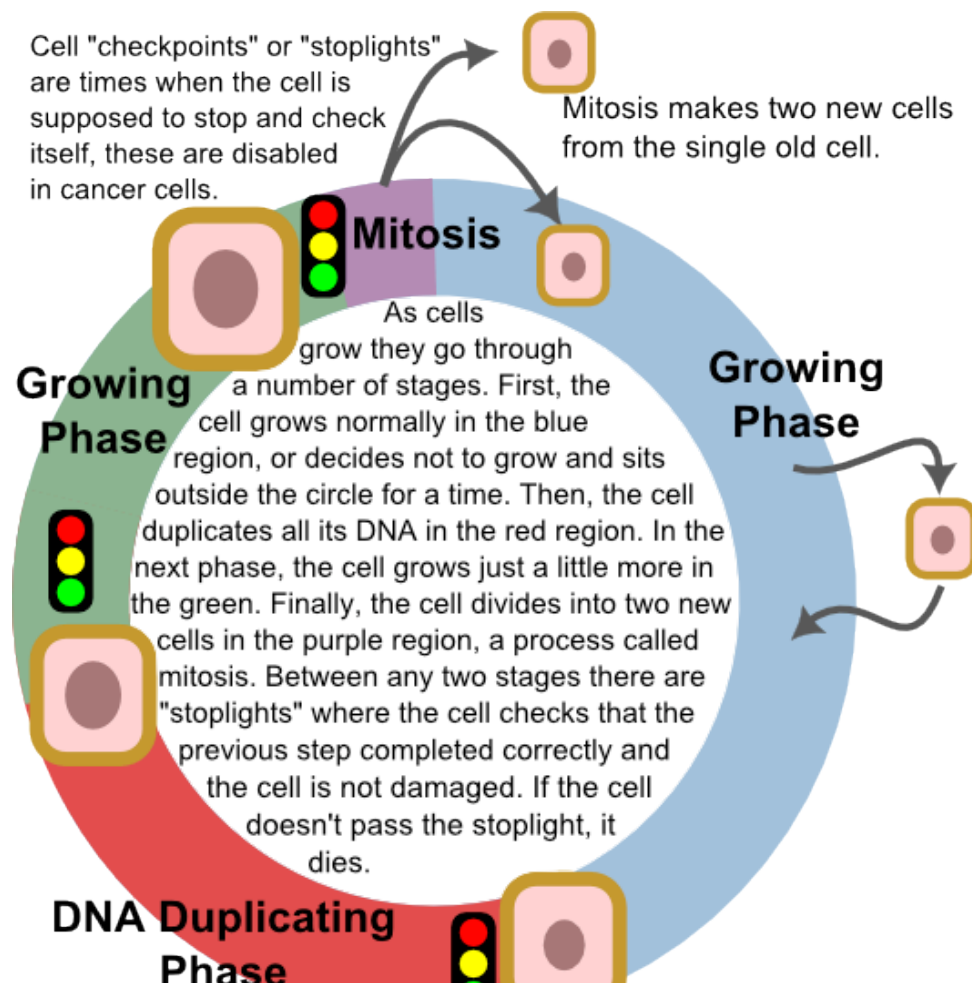
1-5 Notes

Cell Division

Cell Division (mitosis) – This is the process of dividing a cell into 2 daughter cells that are exactly the same.

Stages:

Interphase – In this stage, the cell is in normal growth. When the cell decides to undergo mitosis, DNA begins to replicate during interphase.



Prophase – In this stage, the chromatin (thread-like structure containing DNA) in the nucleus condenses to form chromosomes (bar-like bodies).

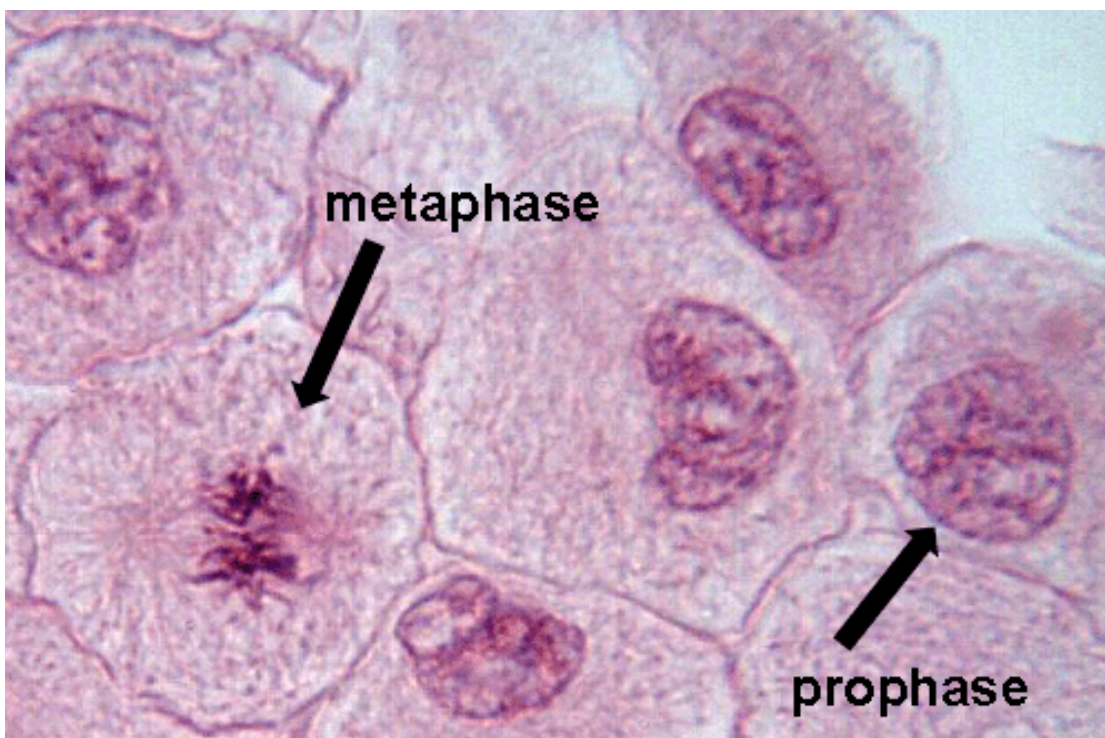
During prophase, each chromosome has an exact pair, and they are joined together by a centromere.

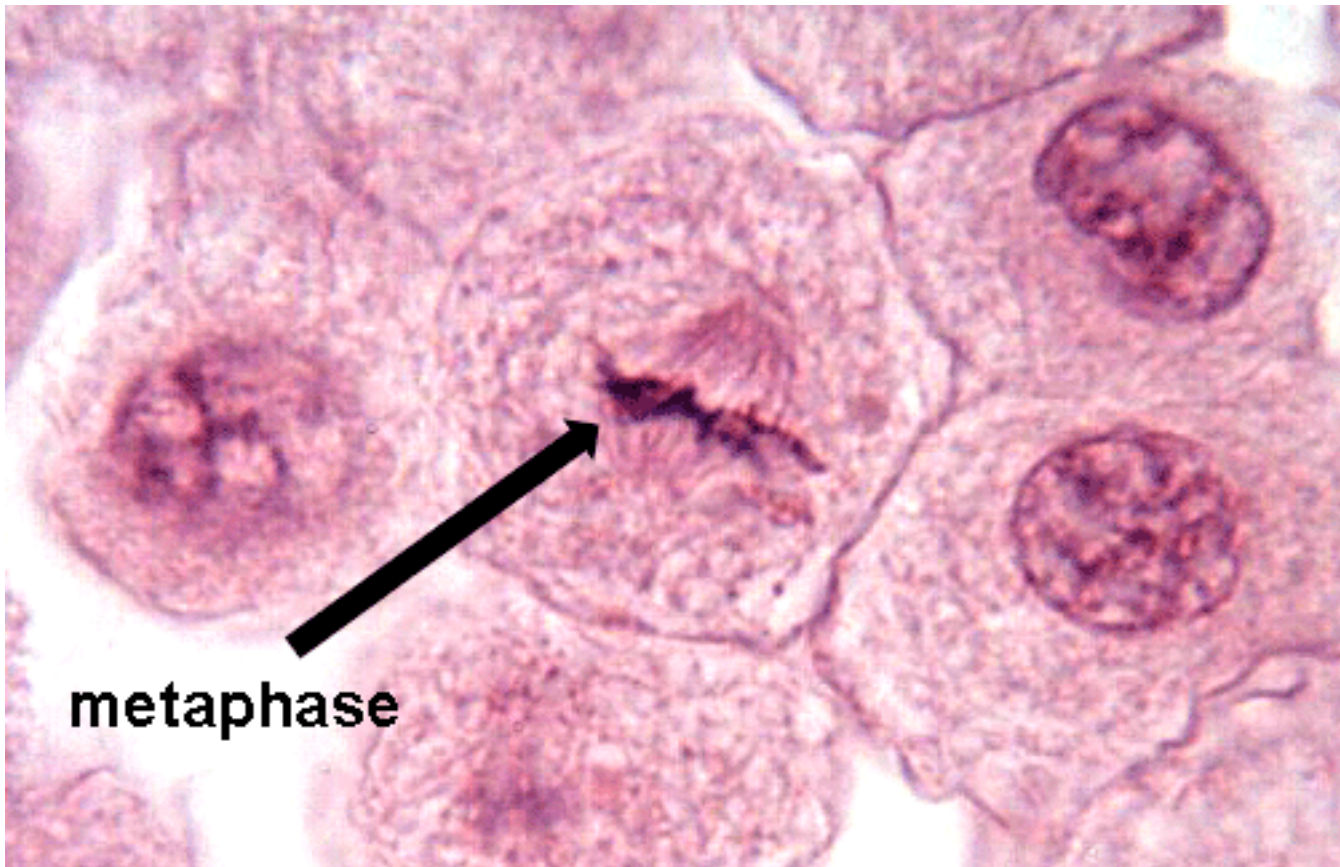
Centromere –

Centrioles then move to opposite sides of the cell and construct the mitotic spindle.

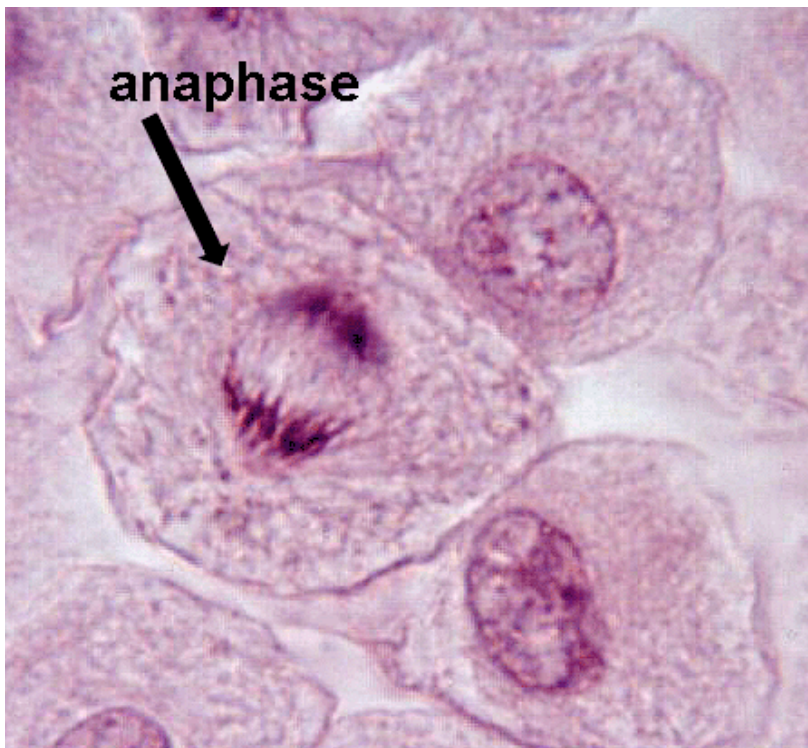
Mitotic Spindle –

Metaphase – In this stage, the chromosomes line up in the middle.



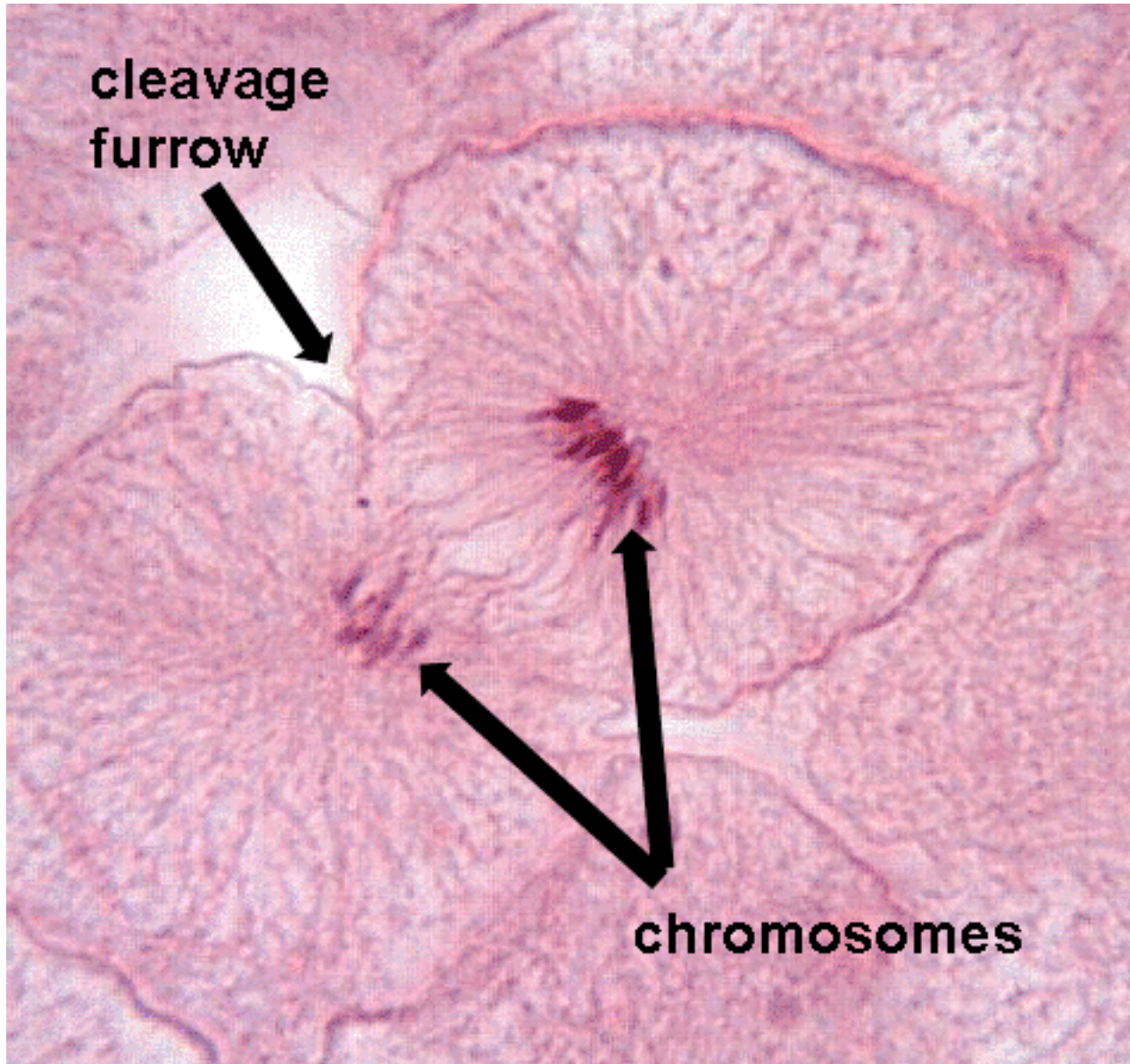


Anaphase – In this stage, the centromeres holding the paired chromosomes splits, and the chromosomes migrate to the ends of the cell.

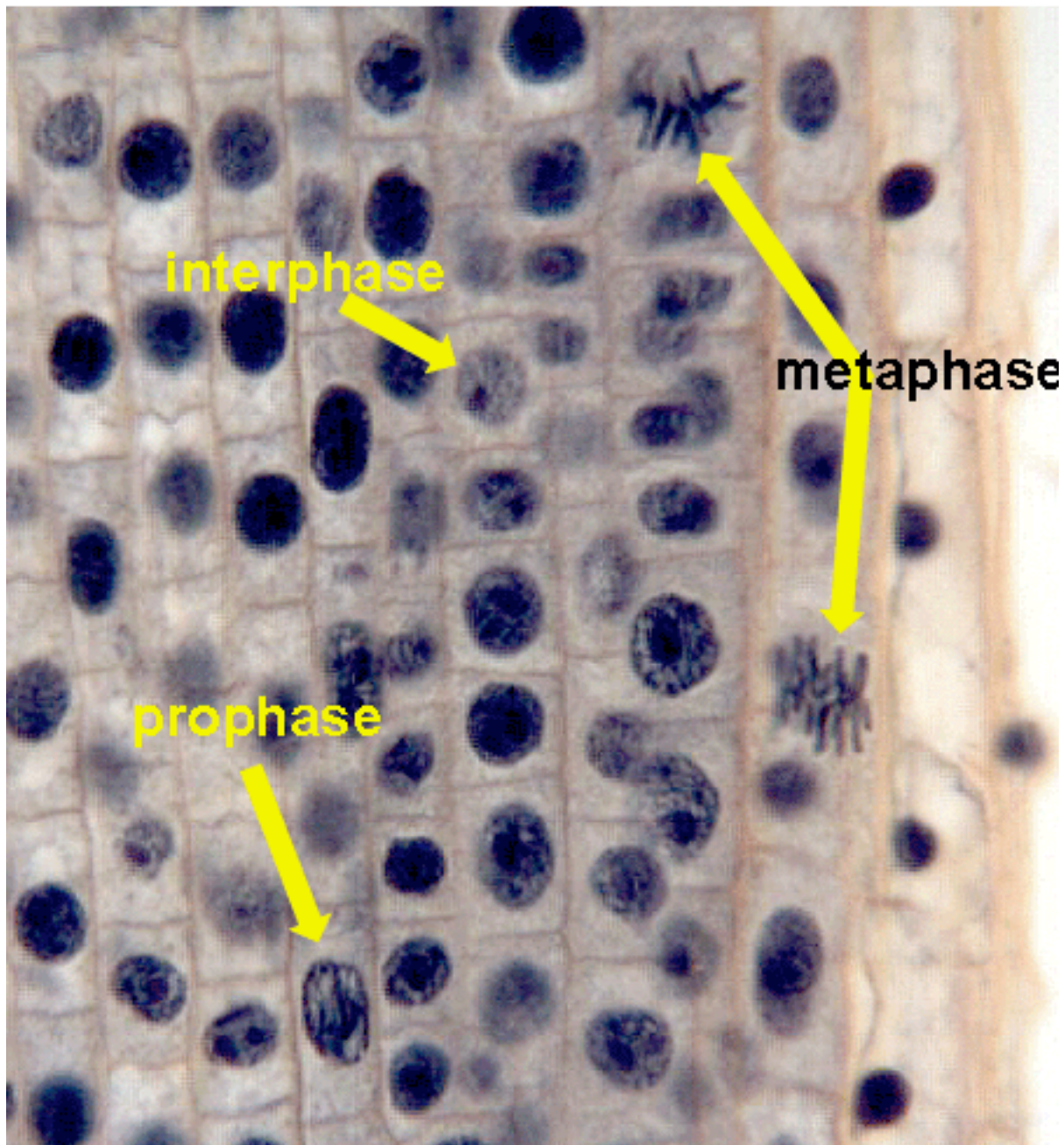


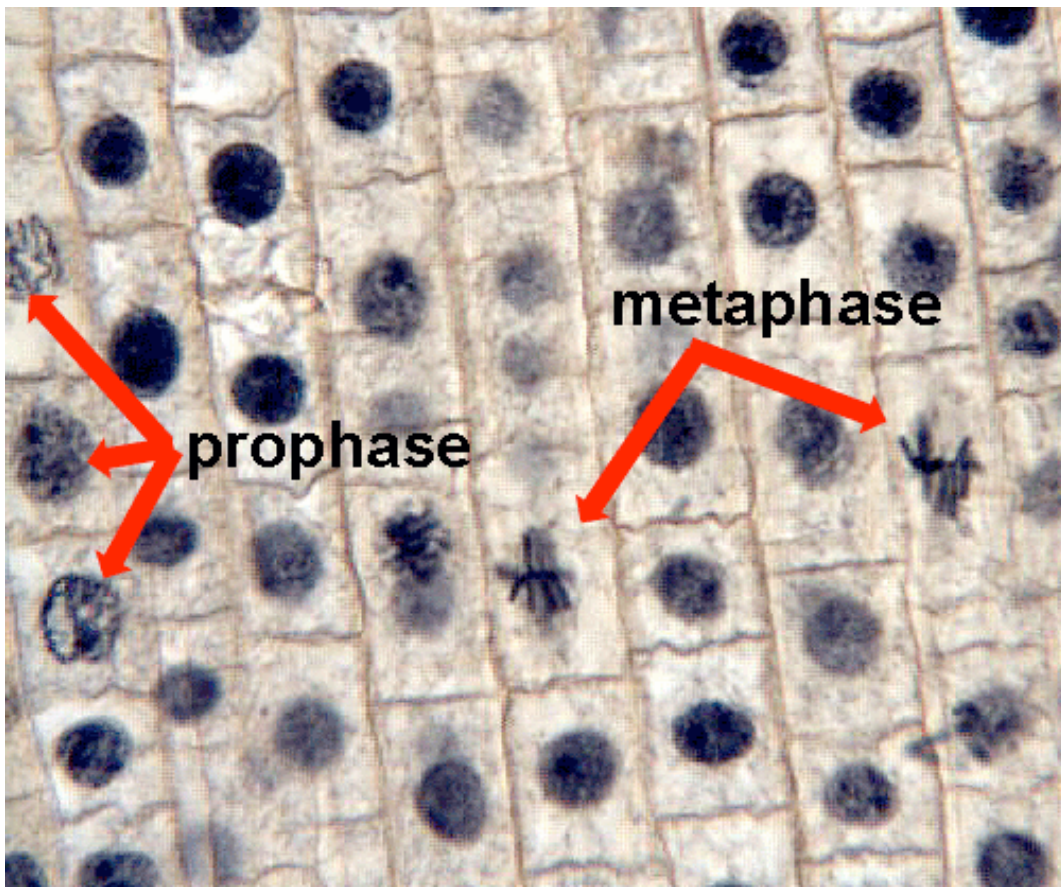
Telophase – In this stage, the chromosomes uncoil and become chromatin again (thread-like). Also, the spindle breaks down.

Cytokinesis – Splitting of the cytoplasm. This occurs during anaphase and telophase.

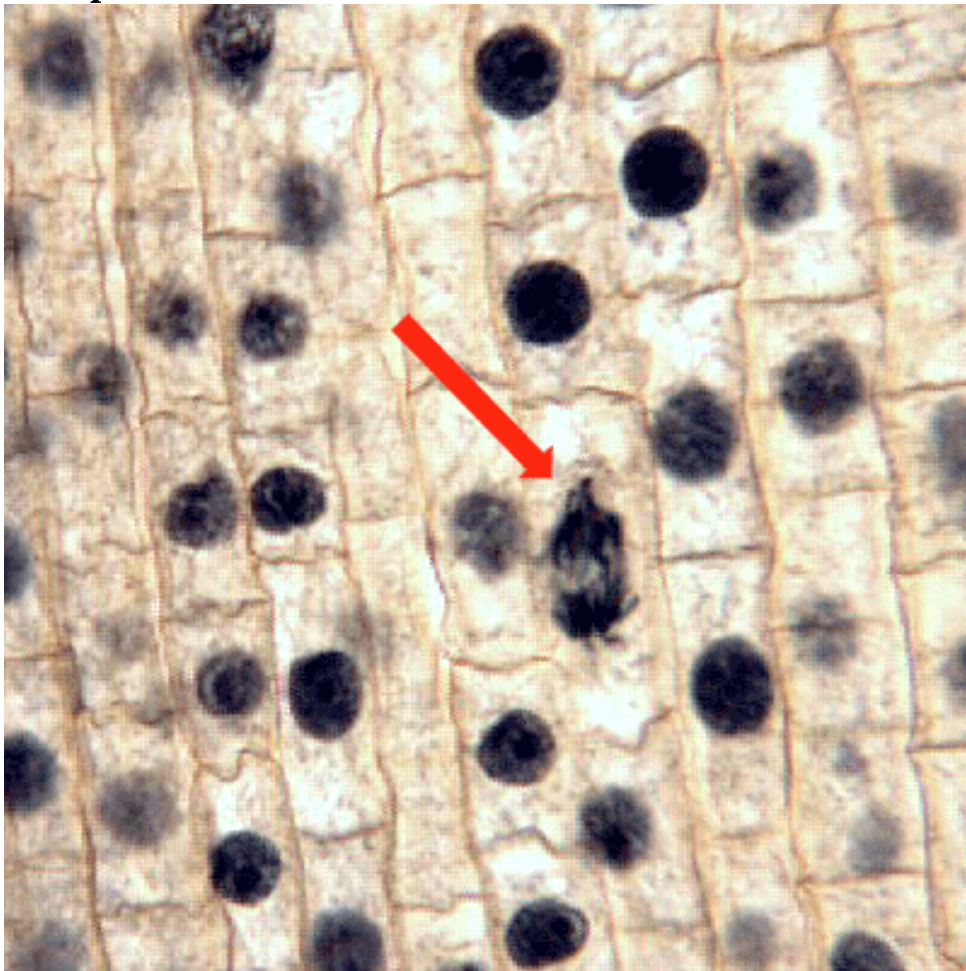


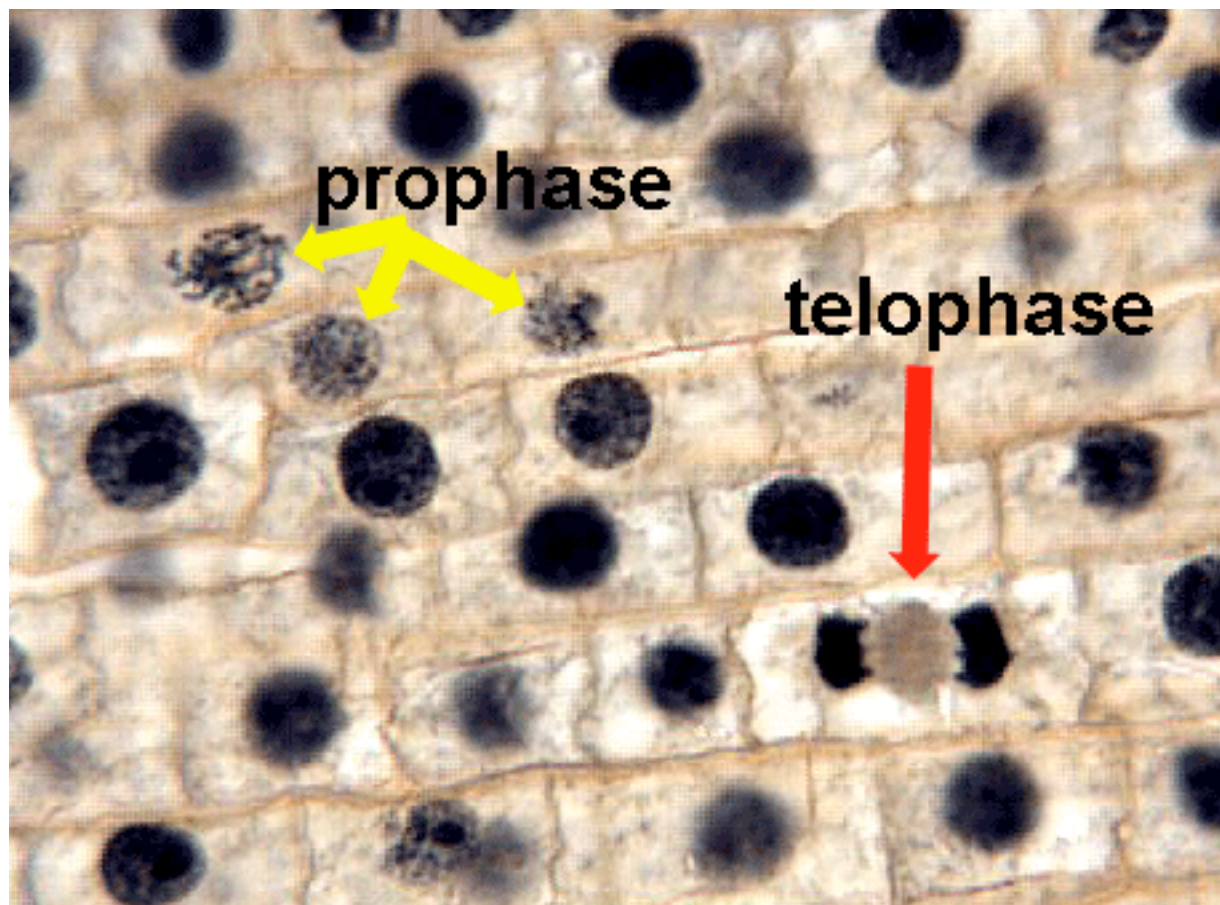
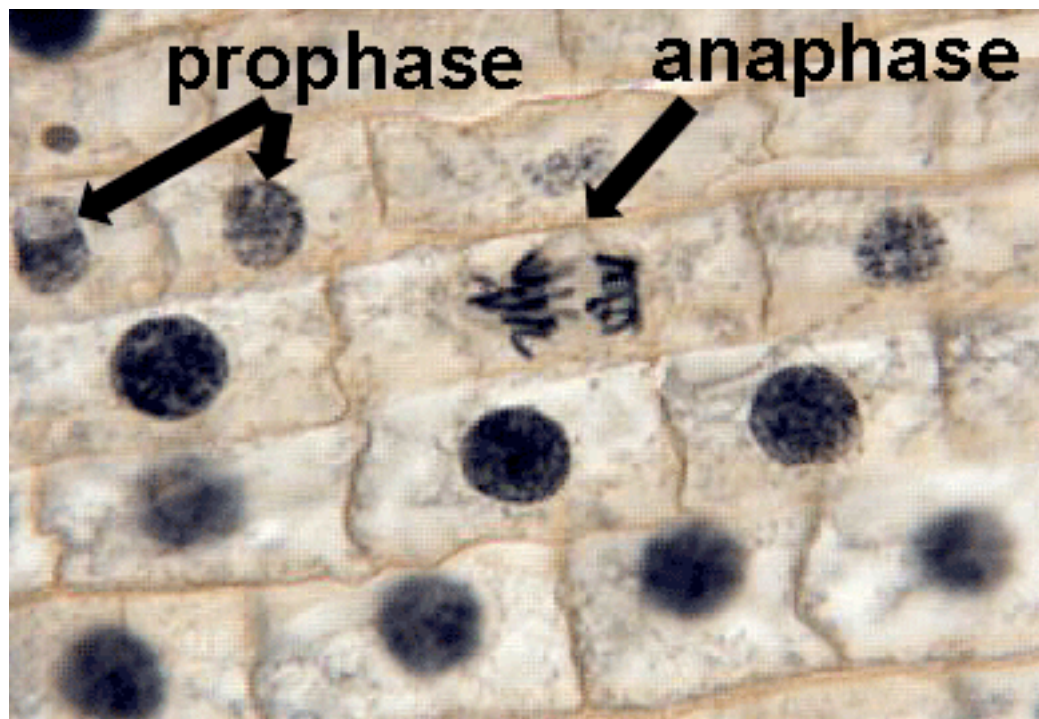
Additional Slides:



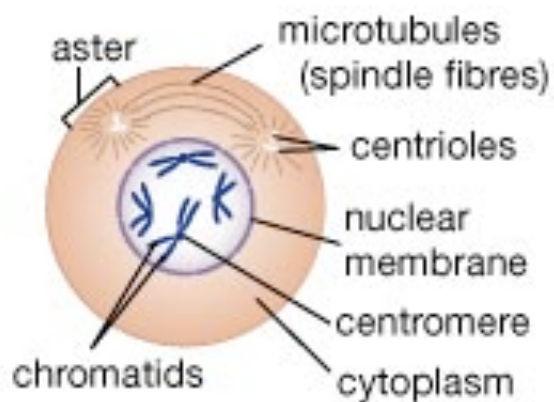


Anaphase

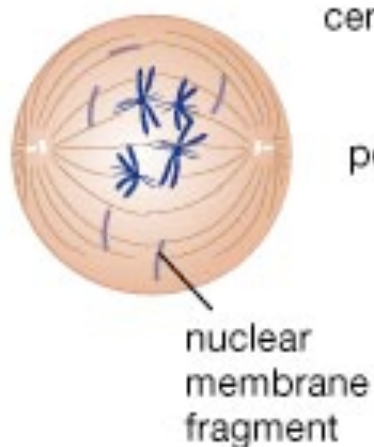




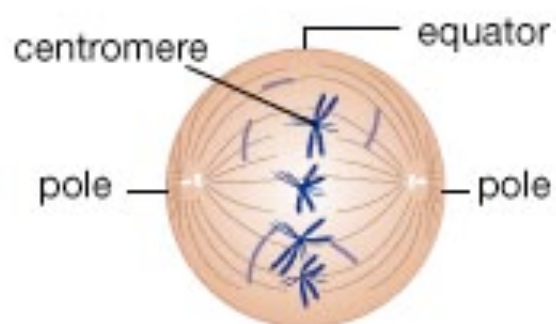
A. prophase



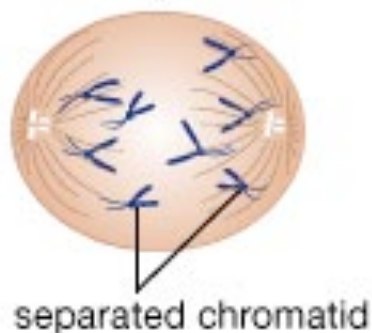
B. late prophase (metaphase)



C. metaphase



D. anaphase



E. telophase

